Application No.: 10/732,812 Docket No.: 9553.004.00-US

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A material for forming copper undercoat films comprising a compound represented by the general formula

$$(R_1R_2)P - (R)n - Si + (X_1X_2X_3)$$

characterized in that the compound represented by the general formula is selected from the group consisting of: 1-diethylphosphino-2-triethoxysilylethane, 1-dimethylphosphino-2-trimethoxysilylethane, 1-diethylphosphino-2-trimethoxysilylethane, 1-diethylphosphino-3-triethoxysilylpropane, 1-diethylphosphino-3-triethoxysilylpropane, 1-diphenylphosphino-3-triethoxysilylpropane, 1-diphenylphosphino-2-trichlorosilylethane, 1-diphenylphosphino-2-trisdimethylaminosilylethane, 1-diphenylphosphino-2-triisocyanatosilylethane and 1-diphenylphosphino-4-triethoxysilylethylbenzene, wherein the material prevents copper diffusion.

- 2. (Canceled).
- 3. (Currently Amended) The material for forming copper undercoat films according to claim 1, wherein the alkyl-phosphino-organic-silyl(R₁R₂)P-(R)n-Si groups are capable of bondingare bonded to a substrate via Si-O bonding, by a solvent and by the compound represented by the general formula.
- 4. (Canceled).
- 5. (Withdrawn) A method for forming copper undercoat films comprising, contacting the material for forming copper undercoat films of claim 1 with a substrate surface, thus forming a copper undercoat film.
- 6. (Withdrawn-Currently Amended) The method for forming copper undercoat films according to claim 5, wherein the undercoat film is produced by the bonding of the alkyl-

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<u>phosphino-organic-silyl(R₁R₂)P-(R)n-Si</u> groups to the substrate via Si-O bonding, and wherein the reaction between <u>the silicon-hydrolytic-Si(X₁X₂X₃)</u> groups and <u>alcohol-OH</u> groups at the substrate surface occurs in liquid phase.

- 7. (Withdrawn-Currently Amended) The method for forming copper undercoat films according to claim 5, wherein the undercoat film is produced by the bonding of the alkyl-phosphino-organic-silyl(R₁R₂)P (R)n-Si groups to the substrate via Si- O bonding, and wherein the reaction between the silicon-hydrolytic-Si(X₁X₂X₃) groups and alcohol-OH groups at the substrate surface occurs in gas phase.
- 8. (Withdrawn-Currently Amended) The method for forming copper undercoat films according to claim 5, wherein the undercoat film is produced by the bonding of the alkyl-phosphino-organic-silyl(R₁R₂)P-(R)n-Si groups to the substrate via Si-O bonding, and wherein the reaction between the silicon-hydrolytic-Si(X₁X₂X₃) groups and alcohol-OH groups at the substrate surface occurs in a supercritical liquid.
- 9. (Withdrawn-Currently Amended) The method for forming copper undercoat films according to claim 5, characterized in that the reaction between the silicon-hydrolytic-Si(X₁X₂X₃) groups and alcohol-OH groups at the substrate surface is carried out under the condition of room temperature to 450 °C.
- 10. (Canceled).
- 11. (Canceled).
- 12. (Withdrawn) A method for forming copper undercoat films comprising, contacting the material for forming copper undercoat films of claim 2 with a substrate surface, thus forming a copper undercoat film.

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13. (Withdrawn) The method for forming copper undercoat films according to claim 12, wherein the undercoat film is produced by the bonding of $(R_1R_2)P$ - $(R)_n$ -Si groups to the substrate via Si-O bonding, and wherein the reaction between -Si $(X_1X_2X_3)$ groups and -OH groups at the substrate surface occurs in liquid phase.

- 14. (Withdrawn) The method for forming copper undercoat films according to claim 12, wherein the undercoat film is produced by the bonding of $(R_1R_2)P$ - $(R)_n$ -Si groups to the substrate via Si-0 bonding, and wherein the reaction between—Si $(X_1X_2X_3)$ groups and -OH groups at the substrate surface occurs in gas phase.
- 15. (Withdrawn) The method for forming copper undercoat films according to claim 12, wherein the undercoat film is produced by the bonding of (R_1R_2) - $(R)_n$ -Si groups to the substrate via Si-O bonding, and wherein the reaction between -Si $(X_1X_2X_3)$ groups and -OH groups at the substrate surface occurs in a supercritical liquid.
- 16. (Withdrawn) The method for forming copper undercoat films according to claim 12, characterized in that the reaction between $-Si(X_1X_2X_3)$ groups and -OH groups at the substrate surface is carried out under the condition of room temperature to 450 °C.

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